MACRO ECONOMIC FACTORS AND STOCK RETURNS OF LARGE, MID CAP AND SMALL COMPANIES: EVIDENCE FROM INDIA

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ABSTRACT

The core purpose of this study is to analyse the impact of macroeconomic factors and stock returns of big companies, mid cap companies and small companies listed in national stock exchange in India. The study period covers ten years from 2010 to 2019. For the purpose of the study, predominant macroeconomic factors have been selected based on the literature review. The sample macroeconomic factors are employment rate, gross domestic products, exchange rate, inflation, interest rate and foreign direct investment chosen for the study. The data analysis was done using regression analysis. The findings also reveal that the macroeconomic indicators significantly affect the stock market performance. Therefore, the study concludes that the exchange rate had been significantly affect the all thee portfolios of big, mid cap and small companies in national stock exchange. The study suggested that the stock market to retain the Indian investors and foreign investors, government and other policy makers are needed to make policies in complement to the macroeconomic variables. This will help to enable to overall growth of economy and bring trust among the investors across the globe.

KEYWORDS: *Macroeconomic Factors, National Stock Exchange, Portfolios, Big Companies, Mid Cap Companies, Small Companies and Multiple Regression Analysis*

INTRODUCTION

The Indian securities exchange had seen a lot of ups and downs since 1991, after the legislature actualized the Liberalization, Privatization and Globalization Model in India. This model has associated each nation with different nations and therefore a single market is made and in this manner, from the economic perspective, the significance of securities exchange is developing as it helps in development of capital in developing and developed countries, provoking the advancement of industry and business of the nation. There is a huge job of Indian capital market in the Indian economy development. A little development in the financial exchange influences the presentation of economy. A competent capital market is portrayed by one in which security prices change quickly to the appearance of new data. Subsequently, the current prices of securities reflect all information about the security. This has significant implication for policy-makers and the stock-broking industry the same. Strategy producers should do not hesitate to direct national macroeconomic policies without the misgiving of affecting capital formation and the stock exchange process. Likewise, economic theory suggests that stock prices should reflect expectations about future corporate execution. Corporate profits generally reflect the level of economic activities. On the off chance that stock prices precisely uncover the hidden basics, at that point the stock prices ought to be utilized as driving markers of future financial exercises. Accordingly, the causal relations and dynamic co-

operations among macroeconomic factors and stock costs are significant in the plan of the country's macroeconomic approach.

Trends in Indian Stock Market

The stock market of India has a significant spot in Asia as well an in the world. Over the world, the Bombay Stock Exchange is probably the most punctual trade though in the event that the National Stock Exchange is viewed as best regarding progression and complexity of innovation. After the globalization Indian securities exchange pace expanded excessively quick and subsequently, it turns into a focal point of fascination for speculators over the world. The whole of nineties were used to examination and change a profitable and effective system, and from the hour of globalization, the stock market started to work capably and showed its new heights, at different times of its progression. Indian stock market has seen different good and bad times there were times when the stock market achieves new heights, breaking its previous records and there is time in like manner when securities exchange jumps up to its incredible. As stock market index is an essential piece of the economy, these ups and downs cannot be ignored as an economy is affected by the several policies and other unavoidable situations created in an economy.

REVIEW OF LITERATURE

Wong et al. (2005) analysed a study to know whether macroeconomic factors affect the stock prices of Singapore and United States. They analyse the long run equilibrium relationships between the macroeconomics factors and the two countries. Menike (2006) analysed a study on how macroeconomic factors affect stock prices in developing Sri Lankan Stock Market. Secondary data was used from 1991 to 2002. Multivariate regression was used by him on all factors for each stock. The study too discovers that there is a relationship between stock market in the Colombo Stock Exchange and macroeconomic factors. Sharma (2009) has taken monthly data over the period of 2001 to 2008 to analyse the relationship between Vietnamese stock prices and macroeconomic factor that is interest rate. Tarika Singh et al (2011) have studied Macroeconomic factors and stock returns: Evidence from Taiwan.Vihari Guptha. (2014) have taken quarterly data over the period of 1991 to 2013 to analyse the relationship between the macroeconomic factors and the stock market of Turkey named as Istanbul Stock Exchange. Singh (2017) conducted a study that aim to analyse the effect of various macroeconomic variables like inflation rate, exchange rate, and interest rate on the stock price of two gulf countries i.e. Kingdom of Saudi Arabia and United Arab Emirates.

Statement of the Problem

Recent research has therefore begun to focus on the linkages between the stock markets and macroeconomic development. New theoretical work shows how stock market development might boost long-run economic growth, and new empirical evidence supports this view. The stock market development plays an important role in predicting future economic growth. The World Bank Economic Review also dedicates its May 1996 issue to the role of the stock markets in economic growth. It is by now widely recognized that a well-functioning stock market is crucial to economic growth. As part of the stock market development, the macroeconomic indicators play important role in stock market development. Then, the question of how the macroeconomic determinants help to stock market development becomes important.

OBJECTIVE OF THE STUDY

- To investigates the impact of macroeconomic factors and stock returns of big companies, mid cap companies and small companies listed in national stock exchange in India.

Hypothesis of the Study

- There is no significant difference between macroeconomic determinants and stock returns of big companies, mid cap companies and small companies listed in national stock exchange in India.

RESEARCH METHODOLOGY

The present study is analytical in nature. The sample size of the study included all the companies listed in the national stock exchange of India that is, Nifty 50 Index. Sample size was of companies used in the formation of Nifty 50 Index during the year 2010 to 2019. The data used in the study had been divided into two sub-groups. The first data set consists of stock index data. The second data set consists of data on macroeconomic factors. Secondary data of stock index was taken from 2010 to 2019 and was collected from official website of National Stock Exchanges. The data for macroeconomic variables was collected from the official website of World Bank database. The analysis is based on stock portfolios rather than single stocks. In portfolio construction, three criteria are used i.e. price earnings ratio (P/E ratio), price book value ratio (P/B) and yield. First, all the companies listed in national stock exchange were grouped into big, medium, and small companies based on market capitalization. Then in each big, medium, and small company, three sub-portfolios were made based on P/E ratio, PB ratio and yield. In all, for big, medium, and small companies, there were nine portfolios. The macro economic variables used in the study are employment rate, gross domestic products, exchange rate, inflation, interest rate and foreign direct investment. Annual portfolio returns were calculated for each year of study. Regression was applied to calculate the impact of macroeconomic variables on stock returns.

Table 1: Regression Analysis between Macroeconomic Determinants and Stock Returns of Big Companies, Mid Cap Companies and Small Companies Listed in National Stock Exchange in India

S No.	Hypothesis	R Square	Adjusted R Square	F Change	Sig. F Change	Statistical Relationship
Big Companies						
Portfolio 1 PE ratio						
1	Regression between portfolio 1 and employment rate.	.215	.117	2.192	.177	Employment rate has statistically not significant with PE ratio portfolio returns of big companies.
2	Regression between portfolio 1 and exchange rate.	.993	.954	69.07	.003*	Exchange rate has statistically significant with PE ratio portfolio returns of big companies.
3	Regression between portfolio 1 and GDP.	.125	.016	1.147	.315	GDP has statistically not significant with PE ratio portfolio returns of big companies.

4	Regression between portfolio 1 and inflation.	.132	.023	1.213	.303	Inflation has statistically not significant with PE ratio portfolio returns of big companies.
5	Regression between portfolio 1 and interest rate.	.867	.813	53.08	.009*	Interest rate has statistically significant with PE ratio portfolio returns of big companies.
6	Regression between portfolio 1 and FDI.	.027	-.094	.226	.647	FDI has statistically not significant with PE ratio portfolio returns of big companies.
Portfolio 2 PR ratio					
7	Regression between portfolio 2 and employment rate.	.007	-.117	.058	.815	Employment rate has statistically not significant with PR ratio portfolio returns of big companies.
8	Regression between portfolio 2 and exchange rate.	.993	.979	72.108	.002*	Exchange rate has statistically significant with PR ratio portfolio returns of big companies.
9	Regression between portfolio 2 and GDP.	.000	-.125	.000	.998	GDP has statistically not significant with PR ratio portfolio returns of big companies.
10	Regression between portfolio 2 and inflation.	.110	-.001	.989	.349	Inflation has statistically not significant with PR ratio portfolio returns of big companies.
11	Regression between portfolio 2 and interest rate.	.002	-.123	.016	.901	Interest rate has statistically not significant with PR ratio portfolio returns of big companies.
12	Regression between portfolio 2 and FDI.	.064	-.053	.543	.482	FDI has statistically not significant with PR ratio portfolio returns of big companies.
Portfolio 3 Yield					
13	Regression between portfolio 3 and employment rate.	.064	-.053	.543	.482	Employment rate has statistically not significant with yield portfolio returns of big companies.
14	Regression between portfolio 3 and exchange rate.	.967	.934	62.73	.005*	Exchange rate has statistically significant with yield portfolio returns of big companies.
15	Regression between portfolio 3 and GDP.	.088	-.026	.768	.406	GDP has statistically not significant with yield portfolio returns of big companies.
16	Regression between portfolio 3 and inflation.	.009	-.115	.074	.793	Inflation has statistically not significant with yield portfolio returns of big companies.

17	Regression between portfolio 3 and interest rate.	.279	.189	3.091	.117	Interest rate has statistically not significant with yield portfolio returns of big companies.
18	Regression between portfolio 3 and FDI.	.042	-.077	.355	.568	FDI has statistically not significant with yield portfolio returns of big companies.
	**Mid Cap Companies**
	**Portfolio 1 PE ratio**
19	Regression between portfolio 1 and employment rate.	.473	.407	7.187	.028*	Employment rate has statistically significant with PE ratio portfolio returns of mid cap companies.
20	Regression between portfolio 1 and exchange rate.	.996	.920	56.01	.007*	Exchange rate has statistically significant with PE ratio portfolio returns of mid cap companies.
21	Regression between portfolio 1 and GDP.	.162	.057	1.549	.249	GDP has statistically not significant with PE ratio portfolio returns of mid cap companies.
22	Regression between portfolio 1 and inflation.	.256	.163	2.747	.136	Inflation has statistically not significant with PE ratio portfolio returns of mid cap companies.
23	Regression between portfolio 1 and interest rate.	.926	.890	51.08	.004*	Interest rate has statistically significant with PE ratio portfolio returns of mid cap companies.
24	Regression between portfolio 1 and FDI.	.026	-.096	.210	.659	FDI has statistically not significant with PE ratio portfolio returns of mid cap companies.
Portfolio 2 PE ratio
25	Regression between portfolio 2 and employment rate.	.002	-.122	.018	.896	Employment rate has statistically not significant with PR ratio portfolio returns of mid cap companies.
26	Regression between portfolio 2 and exchange rate.	.873	.807	47.187	.008*	Exchange rate has statistically significant with PR ratio portfolio returns of mid cap companies.
27	Regression between portfolio 2 and GDP.	.228	.131	2.358	.163	GDP has statistically not significant with PR ratio portfolio returns of mid cap companies.
28	Regression between portfolio 2 and inflation.	.006	-.118	.051	.827	Inflation has statistically not significant with PR ratio portfolio returns of mid cap companies.
29	Regression between portfolio 2 and interest rate.	.158	.053	1.503	.255	Interest rate has statistically not significant with PR ratio portfolio returns of mid cap companies.

30	Regression between portfolio 2 and FDI.	.032	-.088	.269	.618	FDI has statistically not significant with PR ratio portfolio returns of mid cap companies.
Portfolio 3 Yield						
31	Regression between portfolio 3 and employment rate.	.077	-.038	.670	.437	Employment rate has statistically not significant with yield portfolio returns of mid cap companies.
32	Regression between portfolio 3 and exchange rate.	.011	-.112	.093	.769	Exchange rate has statistically not significant with yield portfolio returns of mid cap companies.
33	Regression between portfolio 3 and GDP.	.973	.947	61.87	.002*	GDP has statistically significant with yield portfolio returns of mid cap companies.
34	Regression between portfolio 3 and inflation.	.034	-.087	.281	.610	Inflation has statistically not significant with yield portfolio returns of mid cap companies.
35	Regression between portfolio 3 and interest rate.	.011	-.113	.086	.776	Interest rate has statistically not significant with yield portfolio returns of mid cap companies.
36	Regression between portfolio 3 and FDI.	.000	-.125	.001	.972	FDI has statistically not significant with yield portfolio returns of mid cap companies.
Small Companies						
Portfolio 1 PE ratio						
37	Regression between portfolio 1 and employment rate.	.213	.115	2.169	.179	Employment rate has statistically not significant with PE ratio portfolio returns of small companies.
38	Regression between portfolio 1 and exchange rate.	.223	.125	2.291	.169	Exchange rate has statistically not significant with PE ratio portfolio returns of small companies.
39	Regression between portfolio 1 and GDP.	.225	.128	2.316	.167	GDP has statistically not significant with PE ratio portfolio returns of small companies.
40	Regression between portfolio 1 and inflation.	.001	-.124	.009	.926	Inflation has statistically not significant with PE ratio portfolio returns of small companies.
41	Regression between portfolio 1 and interest rate.	.149	.042	1.395	.271	Interest rate has statistically not significant with PE ratio portfolio returns of small companies.
42	Regression between portfolio 1 and FDI.	.044	-.076	.366	.562	FDI has statistically not significant with PE ratio portfolio returns of small companies.

Portfolio 2 PE ratio					
43	Regression between portfolio 2 and employment rate.	.425	.353	5.902	.041*	Employment rate has statistically significant with PR ratio portfolio returns of small companies.
44	Regression between portfolio 2 and exchange rate.	.439	.369	6.258	.037*	Exchange rate has statistically significant with PR ratio portfolio returns of small companies.
45	Regression between portfolio 2 and GDP.	.010	-.113	.085	.778	GDP has statistically not significant with PR ratio portfolio returns of small companies.
46	Regression between portfolio 2 and inflation.	.159	.054	1.511	.254	Inflation has statistically not significant with PR ratio portfolio returns of small companies.
47	Regression between portfolio 2 and interest rate.	.843	.787	43.27	.012*	Interest rate has statistically significant with PR ratio portfolio returns of small companies.
48	Regression between portfolio 2 and FDI.	.175	.072	1.693	.229	FDI has statistically not significant with PR ratio portfolio returns of small companies.
Portfolio 3 Yield					
49	Regression between portfolio 3 and employment rate.	.008	-.117	.061	.811	Employment rate has statistically not significant with yield portfolio returns of small companies.
50	Regression between portfolio 3 and exchange rate.	.002	-.123	.013	.911	Exchange rate has statistically not significant with yield portfolio returns of small companies.
51	Regression between portfolio 3 and GDP.	.773	.694	46.18	.009*	GDP has statistically significant with yield portfolio returns of small companies.
52	Regression between portfolio 3 and inflation.	.016	-.107	.130	.728	Inflation has statistically not significant with yield portfolio returns of small companies.
53	Regression between portfolio 3 and interest rate.	.061	-.057	.516	.493	Interest rate has statistically not significant with yield portfolio returns of small companies.
54	Regression between portfolio 3 and FDI.	.033	-.088	.271	.617	FDI has statistically not significant with yield portfolio returns of small companies.

Source: Computed Data Indicates significant at 5 per cent level.

CONCLUSIONS

The current study indicates that during the study period, the macroeconomic indicators like exchange rate, interest rate and GDP are most influencing factors of stock market performance. In this article, the focus is on how macroeconomic factors influence the big companies, mid cap companies and small companies of nifty 50 indexes by using the six factors i.e. employment rate, gross domestic products, exchange rate, inflation, interest rate and foreign direct investment. It can be concluded that the exchange rate had been significantly affecting all three portfolios of big, mid and small cap companies in the national stock exchange. In this article, it has also been found that the macroeconomic factors significantly affect the stock market performance. Further, to have better returns on the stock market and to retain the Indian investors and foreign investors, government and other policy makers need to make policies in complement to the macroeconomic variables. This will help to enable to overall growth of economy and bring trust among the investors across the globe.

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